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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/714,800

11/17/2003

Heinz Hofmann

15550Z

2932

23389

7590

06/21/2006

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EXAMINER

GELLNER, JEFFREY L

ART UNIT

PAPER NUMBER

3643

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/714,800

Applicant(s)

HOFMANN ET AL.

Examiner

Jeffrey L. Gellner

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-11 is/are pending in the application.
- 4a) Of the above claim(s) 8 and 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-7, 10, 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

The amended paragraph to the specification has been entered. .

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benziger (US 3,985,595) in view of Lee et al. (US 6,547,899 B2).

As to claims 1, 3, and 4, Benziger discloses a process for producing an insensitive explosive mixture comprising depositing TATB on a secondary explosive crystal, HMX (from col. 2 lines 18-32; col. 6 lines 19-25), the TATB at less than 15% by weight (col. 6, lines 19-25). Not disclosed is the TATB being sonochemically aminated. Lee et al., however, discloses the TATB being sonochemically aminated (abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Benziger by using the sonochemically aminated TATB so as to have finer-grained TATB so as to increase shock insensitivity (see Lee et al. at abstract).

As to claim 5, Benziger as modified by Lee et al. further disclose the ammonium solution (abstract of Lee et al.).

As to claims 6 and 7, Benziger as modified by Lee et al. further disclose use of ultrasonic irradiation for amination of TATB with ammonia, and toluene (Lee et al. at col. 2 lines 10-30).

As to claim 10, the limitations of claim 1 are disclose as described above. Not disclosed is the binder added after the depositing step. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Benziger as modified by Lee et al. by adding the binder after deposition depending upon effectiveness of the mixing procedure.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benziger (US 3,985,595) in view of Lee et al. (US 6,547,899 B2) in further view of Highsmith et al. (US 6,425,966 B1).

As to claim 11, the limitations of claim 1 are disclose as described above. Benziger further discloses a binder that is Kel-F (col. 2 lines 4-16). Not disclosed is the binder being a polyacrylic elastomer. Highsmith et al, however, discloses an explosive with TATB and HMX (see col. 5 lines 56-65) that uses either chlorotrifluoroethylene or polyacrylates as a binder (col. 5 lines 21-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Benziger as modified by Lee et al. substituting polyacrylate for the binder depending upon availability and cost of the binder material.

### ***Response to Arguments***

Applicant's arguments filed 3 April 2006 have been fully considered but they are not persuasive. Applicants' arguments are: (1) Benziger does not disclose an insensitive explosive mixture with TATB at less than, say, 40% weight because of disclosed results of a skid test

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(Remarks page 6, 3<sup>rd</sup> and 4<sup>th</sup> para.); (2) Benziger does not disclose the use of sonochemically aminated TATB (Remarks page 7, 1<sup>st</sup> complete para.); (3) Lee et al. does not disclose an insensitive explosive mixture with TATB at less than 15 percent weight (Remarks page 7, 2<sup>nd</sup> complete para.); and, (4) no motivation to combine Benziger and Lee et al. (Remarks bottom of page 7).

As to argument (1), in general TATB is known to one of ordinary skill in the art as insensitive. Although degrees of insensitivity may differ, Examiner considers any amount of TATB to make the composition “insensitive” when compared to other compositions without TATB. Hence, the compositions of Benziger are insensitive even though some compositions may be more sensitive than others when tested by the skid test.

As to argument (2), Lee et al. discloses the use of sonochemically aminated TATB.

As to argument (3), Benziger discloses an insensitive explosive mixture with TATB at less than 15 percent weight.

As to argument (4), the combination is proper because both references are in the field of explosive compositions. Also, motivation for using ultrafine TATB and sonochemically aminated TATB can be found in Bremser et al. (1999) where they state that “for applications requiring higher sensitivity to shock initiation, fine-grained TATB is desirable” (page 280).

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bremser (1999) discloses in the prior art sonochemically-aminated TATB.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey L. Gellner whose telephone number is 571.272.6887. The examiner can normally be reached on Monday-Friday, 8:30-4:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Poon can be reached on 571.272.6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'J. Gellner', with a stylized flourish at the end.

Jeffrey L. Gellner  
Primary Examiner  
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